XR for Teaching & Learning

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XR Software Developer - (She/her)

Media and Learning Association Seminar

CAI Mission

We are designing the future of learning through research, innovation, experimentation, and iteration.

ACADEMIC INNOVATION
UNIVERSITY OF MICHIGAN

Our Work

Curricular Innovation

Educational technology

Educational research and learning analytics

Educational Equity

Who We Serve

U-M community:
Students, Faculty, Alumni

Global Learners

Organizations

XR Initiative Goals

- Bring XR technologies campus-wide

- Integrate XR into residential curricula for all 19 schools and colleges

- Integrate XR into online curricula

- Create innovative public/private partnerships

XR Curriculum

XR Graduate Certificate

- 12 credits in XR focused courses across the entire U-M curriculum
- XR Capstone Project
- XR Internship
- 12 of the 19 schools offer courses in XR

Participating Schools

- School of Information
- Stamps School of Art and Design
- Engineering
- LSA
- Nursing
- Dentistry
- Education
- Medicine
- Kinesiology
- Architecture and Urban Planning
- Music, Theater, & Dance (SMTD)
- Environment and Sustainability

XR Innovation Fund

<u>Seed XR Projects for Teaching & Learning</u>

- Advancing multidisciplinary learning and teaching
- Creating innovative learning experiences with Augmented and Virtual Reality
- Increasing access to XR technologies to a broad audience

XR Innovation Projects

RECEIVED

34 Proposals

FUNDED

25 Projects

COLLABORATED WITH

13 Schools

5/6	Architecture & Urban Planning
5/6	Engineering
4/7	Literature, Science and the Arts (LSA)
3/3	Nursing
2/4	Medical School
1/2	Dentistry
1/1	Information
1/1	Law
1/1	School of Music, Theater & Dance
1/1	School of Environment & Sustainability
1/1	Social Work
1/1	School of Art & Design
1/1	Rackham Graduate School

8 XR Innovation Projects in 2020

"Getting Under the Skin": A VR Chemotherapy Simulation
Michelle Aebersold
School of Nursing

XR Physics Lab
Thomas Schwarz
Department of Physics

XR Nuclear Reactor Laboratory
Brendan Kochunas
Department of Nuclear Engineering and Radiological Sciences

Augmented Tectonics
Jonathan Rule
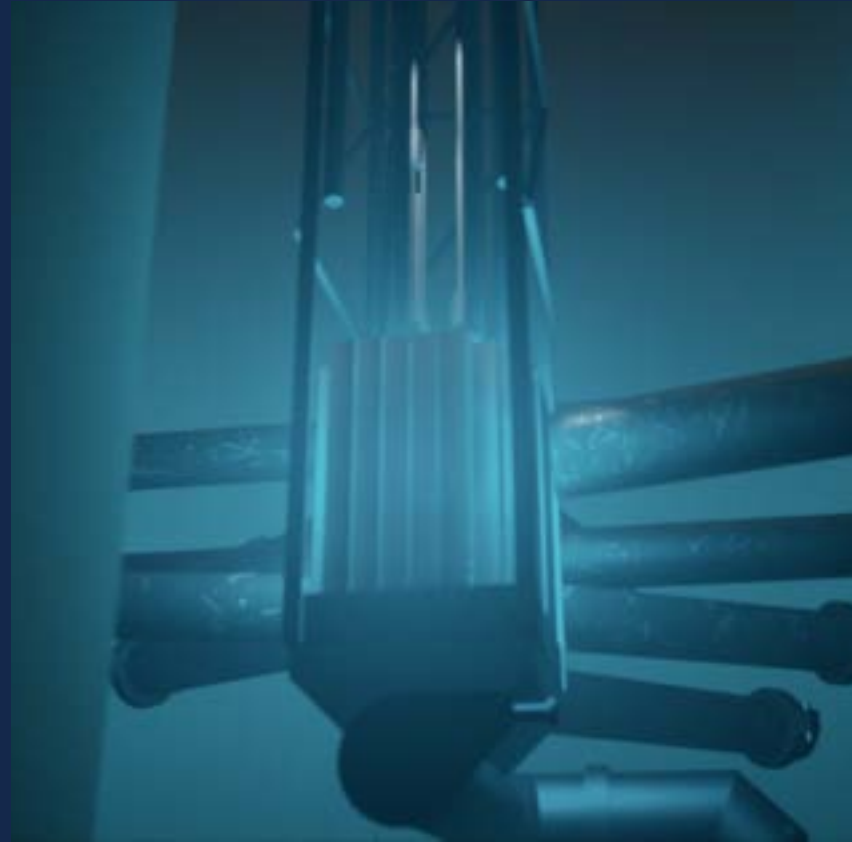*Taubman College of Architecture and Urban Planning*

Under the Skin

Goal: Safe and Effective Delivery of Chemotherapy and Managing Complications
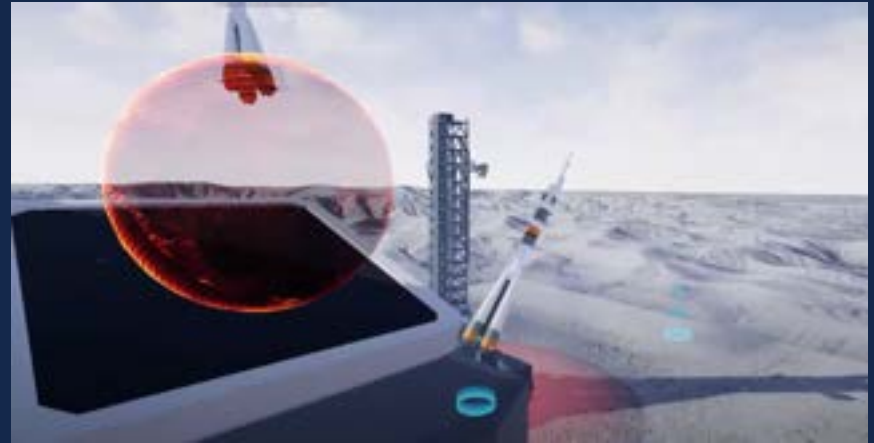
XR Nuclear Reactor

VR Physics Lab

Immersive VR- Launch rockets to observe projectile motion

Choose environments from Earth, Moon and Mars to observe how the gravitational force affects the projectile

Augmented Tectonics

Gallery of framing techniques in the Wood module

Steel Module - The orange button will activate the audio for that material and reveal its precedent display on the wall.

14 NEW XR Innovation Projects

- Three Hololens 2 projects
- One Mobile AR project
- Ten 360 Video projects
  - Soft Skill Development
  - Language Learning
  - Nature Exploration
  - Difficult Situations

Michigan Metaverse - Virtual Diag
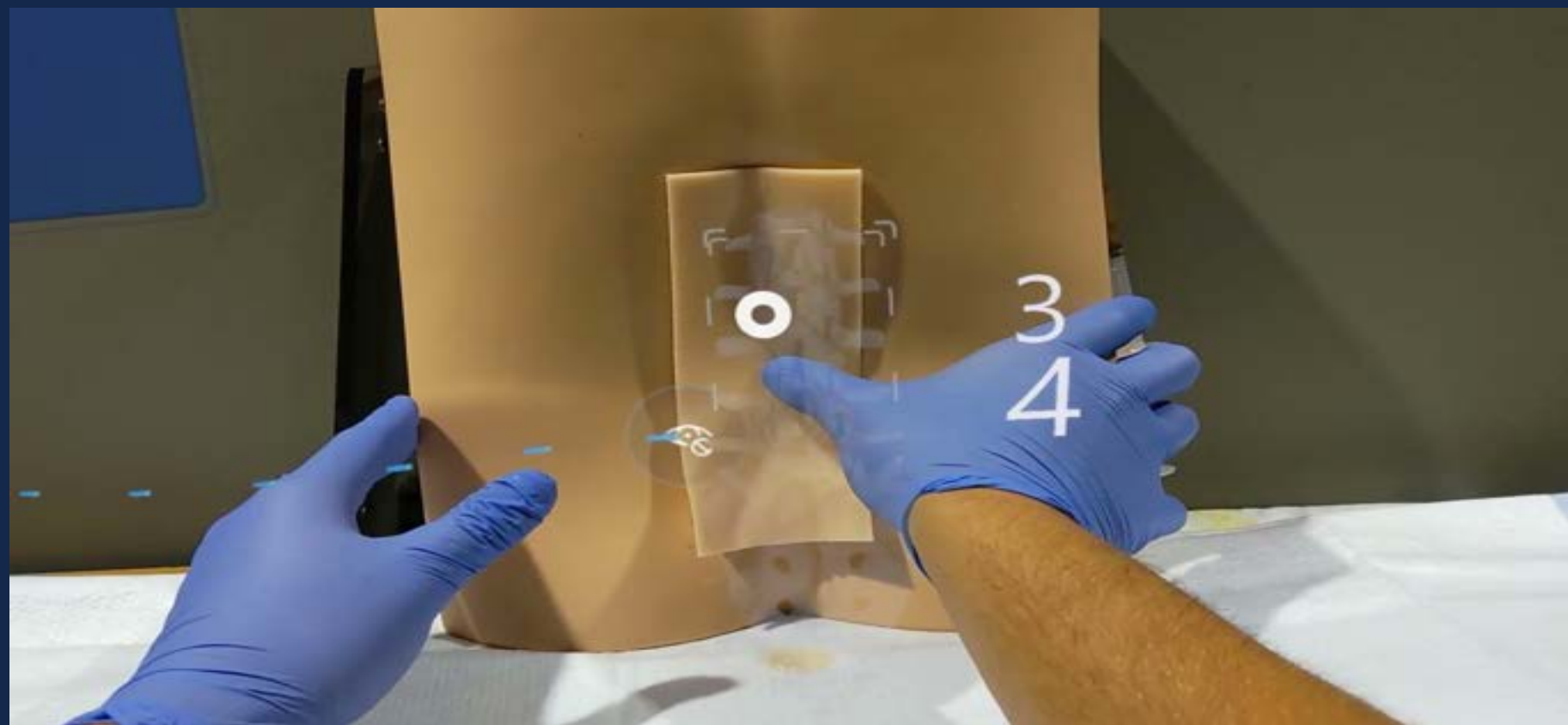
Augmented Reality

- Advanced Technology
- Hands-on Skill Development
- Standardized Learning
- Adaptable and Flexible
- Guided by Evidence

External Collaborations

- **XR Policy**
  - XRA & Bipartisan Policy Center

- **Educause XR Learning Lab**
  - Georgia Tech & The New School

- **HoloLens Dynamics 365 Guides**
  - NHS - Health Education England

- **NSF Center Grant**
  - Center for Medical Innovations in XR - University of Maryland
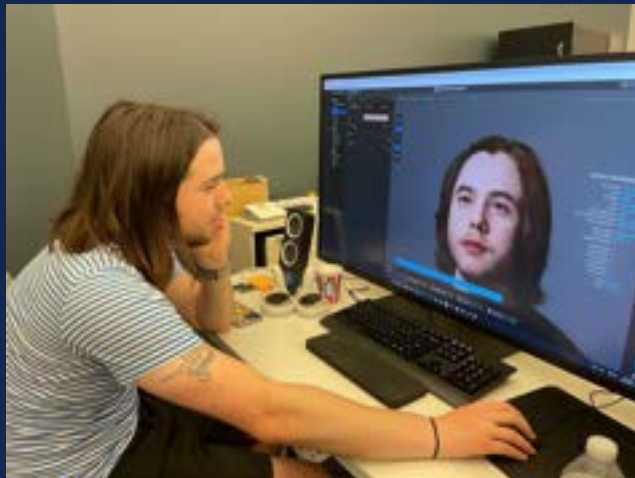
Broadening Access to XR

- 60 Oculus Quests

- 4 Microsoft HoloLens 2

- Shapiro Contactless Checkout

- COVID Safety protocols

- Multiple Courses checking out headsets

XR Student Fellows

42 Student Innovators

- Architecture & Urban Planning
- Art & Design
- Business
- Education
- Engineering
- Information
- LSA
- SMTD

LED Stage - Virtual Production

Virtual Diag

XR Summit Student Showcase

Future of Online Learning

Future of Online Learning

10 XR Enhanced Online Courses - Future of Work

- Partnership with Coursera
- Future of Work Academy
- XR Categories
  - Interactive 360
  - Mobile AR
  - Virtual Production
  - Immersive VR
- Critical Skills, Role-playing simulations, healthcare skills

Thank You!

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